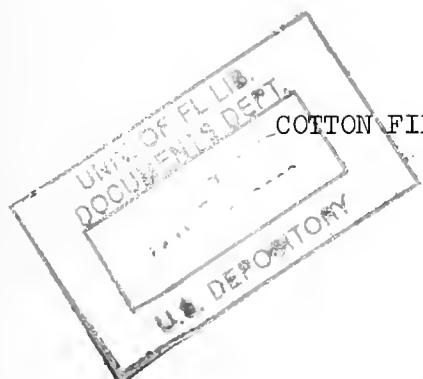


88.11/11: 766/4 ✓

UNITED STATES DEPARTMENT OF AGRICULTURE
Consumer and Marketing Service
Cotton Division
Washington, D. C. 20250



COTTON FIBER AND PROCESSING TEST RESULTS

CROP OF 1966



COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1966

This is the fourth of a series of reports on the fiber and processing test results on the 1966 cotton crop. These reports are issued twice each month during the harvesting season and are summarized in a comprehensive report at the end of the season. This 1966 group of reports will give data on the same subject as AIB 309, "Annual Cotton Quality Survey, Summary of Results of Fiber and Processing Tests from Selected Production Areas, Crop of 1965," dated April 1966.

Recent modernization of testing equipment has resulted in slight changes in test levels for some items. To compare previous years' results to those reported for the 1966 crop, the following adjustments should be made:

1. Yarn imperfections for previous years $\times 0.6 = 1966$ levels.
2. Spinning potential yarn no. for previous years $\times 1.1 = 1966$ levels.

An explanation of these changes is contained in the first report of this series, CT (1966) 1, dated August 26, 1966.

Prepared in the Standards and Testing Branch
Cotton Division
Consumer and Marketing Service
Memphis, Tennessee

Discussion of Test Results

Cotton Division laboratories of the Consumer and Marketing Service report that short staple upland samples tested thus far this season from the Southwestern Area show averages virtually unchanged from last season for fiber length and length distribution, and fiber strength by both the zero-gage and 1/8-inch gage tests. The micronaire readings for this season's short staple samples are lower than for the same period last season; however, there have been only one-half as many samples tested as for last season, and this may have some bearing on the apparent differences. Shirley Analyzer nonlint content and picker and card waste are higher than last year. Yarns from these samples are stronger with higher appearance indices and lower imperfection counts than a year ago.

Southeastern Area samples tested to date are stronger and coarser than for the same period last season. Fiber length is about the same, with a higher uniformity ratio than a year ago. Shirley Analyzer nonlint content and picker and card waste remain on the same levels as last year. Yarns from these samples show the same strength as last year, with yarn appearance higher; however, yarn imperfections are also higher than last year.

Southwestern Area medium staple samples tested this season show slightly longer and stronger fibers with higher micronaire readings than a year ago. Shirley Analyzer nonlint content and picker and card waste are higher than for the same period last season. These samples produced yarns with about the same strength as last year, with higher appearance indices and lower imperfection counts.

Samples tested to date from the South Central and Western Areas are too few for analyses and comparisons. It is anticipated that discussions for these Areas will appear in the next report.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through September 30, 1966 ^{1/} 1/

Fiber test results										Processing test results			
Staple group, area, and crop year	Lots : tested: 2.5% :50/2.5: span : span : unif. :fineness: No.	Fibrograph : naire : span : uniformity: Inches	Micro- : Zero : Gage : Gage	Fiber strength: 1/88": nonlint : waste	Shirley : Analyzer: & card : Gage	Picker : Skein : Appear-: Imper- : strength: ance	Yarn quality	Pct. : waste	Pct. : Pct.	Lbs. : Index	Index No.	2/	
<u>Short staple:</u>													
Southwest:	20	.94	46	4.5	82	20.3	2.5	5.0	91	109	21		
1965			46	4.2	82	20.6	3.0	5.7	94	117	17		
1966													
<u>Medium staple:</u>													
Southeast:	44	1.08	45	4.4	77	21.1	2.5	4.8	105	105	16		
1965		1.07	47	5.0	83	22.9	2.4	4.9	104	112	18		
1966													
Southwest:	43	1.05	46	4.4	84	21.9	2.4	4.9	105	109	19		
1965		1.06	46	4.7	85	21.9	3.0	5.8	107	118	14		
1966													
<u>Significant difference 3/</u>													
		0.02	2	0.2	2	0.5	0.5	0.5	4	5	2		

^{1/} Based on a limited number of samples of modal quality.

^{2/} Adjusted to 1966 level (Imperfection no. x 0.6) to reflect cleaning action of card crusher rolls.

^{3/} Minimum difference considered to be significant for comparison in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1966

Area	Southwestern		
	South Texas	Central Texas	
State			
Production area	Taft	Lockhart	Waco
Predominant variety	Lankart 611	Anton 99	Lankart 57
Percentage of variety at gin	75	90	98
Triweekly sampling	Third	Second	First
RAW COTTON QUALITY			
Grade	designation		
Staple length	inches	SLMLtSp	SLMLtSp
	31/32	15/16	29/32
Fiber length (Digital Fibrograph):			
2.5% span length.....	inches	.94	.92
Uniformity ratio (50/2.5).....	percent	47	48
Fiber fineness and maturity:			
Micronaire	reading	4.6	4.1
Fiber strength and elongation:			
Zero gauge strength	1,000 psi	83	85
Zero gauge strength	grams/tex	41.2	42.2
%-inch gauge strength	grams/tex	20.7	20.4
%-inch gauge elongation.....	percent	6.3	6.6
Shirley Analyzer:			
Visible waste	percent	2.1	3.5
Total visible & invisible.....	percent	3.4	5.0
Color of raw cotton:			
Reflectance	Rd	70.3	70.4
Yellowness	+b	8.5	9.8
Code	number	453	403
PROCESSING RESULTS:			
Picker and card waste.....	percent	6.2	6.4
Yarn skein strength:			
8s (73.8 tex)	pounds	299	307
22s (26.8 tex)	pounds	96	98
Average break factor.....		2252	2306
Yarn skein elongation:			
8s (73.8 tex)	percent	7.0	6.8
22s (26.8 tex)	percent	6.0	5.9
Yarn appearance:			
8s (73.8 tex)	grade	B+	B+
22s (26.8 tex)	grade	B+	B
Average yarn appearance.....	index	120	115
Yarn imperfections: <u>1/</u>			
8s (73.8 tex)	number	23	33
22s (26.8 tex)	number	13	19
Spinning potential... <u>2/</u> ..Yarn number		-	34

1/ Level for previous years x 0.6 = 1966 level.

2/ Level for previous years x 1.1 = 1966 level.

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966

Area State	Southeastern Alabama			
	Ashford Mxd-Mhly	Atmore Coker 100	Deatsville Car. Queen	Goshen Auburn 56
Production area				
Predominant variety				
Percentage of variety at gin	Dixie Kng II	95	100	75
Triweekly sampling	First	First	First	First
RAW COTTON QUALITY				
Grade	designation	SLMLtSp 1-1/32	SLM 1-1/32	M 1-1/32
Staple length	inches			M 1-1/32
Fiber length (Digital Fibrograph):				
2.5% span length.....	inches	1.02	1.11	1.06
Uniformity ratio (50/2.5).percent		47	46	47
Fiber fineness and maturity:				
Micronaire	reading	5.5	4.8	5.6
Fiber strength and elongation:				
Zero gauge strength	1,000 psi	85	80	86
Zero gauge strength	grams/tex	42.1	39.5	42.4
$\frac{1}{4}$ -inch gauge strength	grams/tex	23.0	22.4	23.2
$\frac{1}{4}$ -inch gauge elongation...percent		4.9	5.3	5.1
Shirley Analyzer:				
Visible waste	percent	3.5	2.5	0.9
Total visible & invisible..percent		4.1	3.3	2.1
Color of raw cotton:				
Reflectance	Rd	70.8	74.2	77.0
Yellowness	+b	9.3	8.6	9.0
Code	number	403	402	302
PROCESSING RESULTS:				
Picker and card waste.....	percent	6.5	5.7	4.8
Yarn skein strength:				
22s (26.8 tex)	pounds	92	98	102
50s (11.8 tex)	pounds	28	32	33
Average break factor.....		1712	1878	1947
Yarn skein elongation:				
22s (26.8 tex)	percent	5.3	5.9	6.0
50s (11.8 tex)	percent	3.7	4.4	4.6
Yarn appearance:				
22s (26.8 tex)	grade	B	B+	B
50s (11.8 tex)	grade	B	C+	C+
Average yarn appearance.....	index	110	110	105
Yarn imperfections: <u>1/</u>				
22s (26.8 tex)	number	11	16	13
50s (11.8 tex)	number	10	11	11
Spinning potential... <u>2/</u> ..Yarn number		48	59	52
				58

1/ Level for previous years x 0.6 = 1966 level.

2/ Level for previous years x 1.1 = 1966 level.

Continued on page 7

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Southeastern							
Alabama	Florida	Georgia					
La Fayette	Jay	Blakely	Camilla	Colquitt	Madison	Soperton	
Coker 100	Car. Queen	Coker 100	Car. Queen	Mxd-Mny	Carolina Queen		
75	90	85	98	Auburn 56	100	100	
First	First	First	First	First	First	First	First
M 1-1/16	SM 1-1/32	SLM 1-1/32	M 1-1/32	M 1-inch	M 1-1/32	MLtSp 1-1/32	
1.08 46	1.06 46	1.04 47	1.06 47	1.05 46	1.05 50	1.09 44	
5.1	4.9	5.1	5.5	5.1	5.5	4.2	
80	82	82	84	81	85	81	
39.6	40.5	40.4	41.7	40.3	42.1	40.3	
21.5	23.0	22.3	22.3	21.6	23.2	21.5	
6.1	5.3	5.6	5.2	5.0	5.1	5.2	
1.0	1.7	2.9	1.1	1.2	1.8	2.4	
1.6	2.5	4.2	2.1	1.8	2.8	2.6	
76.5	73.0	71.7	76.2	75.6	77.0	74.5	
9.2	8.7	9.0	9.2	8.9	9.0	8.5	
302	402	403	302	352	302	402	
3.8	5.1	5.7	5.1	4.9	4.8	4.8	
109	100	100	94	95	102	104	
39	33	34	28	30	31	35	
2174	1925	1950	1734	1795	1897	2019	
6.4	5.9	5.9	6.0	5.5	5.8	6.8	
5.1	4.5	4.6	4.3	4.2	4.2	5.1	
B	B	B	B	B	B+	C	
C+	C+	C+	B	C+	B	D+	
105	105	105	110	105	115	85	
16	21	19	27	22	14	28	
12	17	15	21	15	7	22	
68	62	59	47	53	54	62	

Continued on page 8

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Area	Southeastern			
	Georgia	So. Car.	Ala.	Fla.
State				
Production area	Sylvania	Tennille	Unadilla	Aiken
Predominant variety	Coker 100		Carolina Queen	
Percentage of variety at gin	70	90	100	95
Triweekly sampling	First	First	First	First
RAW COTTON QUALITY				
Grade	designation	M 1-1/16	SLM 1-1/16	SLM 1-1/16
Staple length	inches			M 1-1/16
Fiber length (Digital Fibrograph):				
2.5% span length.....	inches	1.10	1.07	1.06
Uniformity ratio (50/2.5).percent		47	48	47
Fiber fineness and maturity:				
Micronaire	reading	4.6	5.0	5.3
Fiber strength and elongation:				
Zero gauge strength	1,000 psi	83	83	82
Zero gauge strength	grams/tex	40.9	41.1	40.4
$\frac{1}{2}$ -inch gauge strength	grams/tex	23.7	22.6	23.1
$\frac{1}{2}$ -inch gauge elongation...percent		5.3	5.2	5.6
Shirley Analyzer:				
Visible waste	percent	1.0	2.2	1.8
Total visible & invisible..	percent	1.6	2.9	2.6
Color of raw cotton:				
Reflectance	Rd	77.0	73.3	71.0
Yellowness	+b	9.0	9.1	8.8
Code	number	302	353	453
PROCESSING RESULTS:				
Picker and card waste.....	percent	4.6	6.1	4.6
Yarn skein strength:				
22s (26.8 tex)	pounds	111	105	104
50s (11.8 tex)	pounds	39	35	34
Average break factor.....		2196	2030	1875
Yarn skein elongation:				
22s (26.8 tex)	percent	6.8	6.2	5.6
50s (11.8 tex)	percent	5.1	4.6	4.1
Yarn appearance:				
22s (26.8 tex)	grade	B	B	B+
50s (11.8 tex)	grade	C+	C	B
Average yarn appearance.....	index	105	100	105
Yarn imperfections: <u>1/</u>				
22s (26.8 tex)	number	20	24	17
50s (11.8 tex)	number	16	18	13
Spinning potential... <u>2/</u> ...Yarn number		63	62	53

1/ Level for previous years x 0.6 = 1966 level.

2/ Level for previous years x 1.1 = 1966 level.

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Southeastern							
South Carolina							
Aiken	Batesburg	Denmark	Eutawville	Mayesville	St. Matthews	Car. Queen	Coker 413
'95	100	100	100	100	100	Car. Queen	All-In-One
Second	First	First	Second	First	First	First	First
LM 1-1/16	M 1-1/8	M 1-1/16	SLM 1-1/16	M 1-1/16	M 1-1/16	SLM 1-1/16	
1.07 47	1.13 49	1.04 46	1.06 47	1.07 45	1.10 47	1.06 44	
4.9	4.5	5.0	5.0	4.6	5.0	4.4	
82	91	85	79	80	84	81	
40.4	44.9	42.2	39.3	39.6	41.8	40.2	
23.2	26.4	22.7	22.5	21.8	23.6	22.7	
5.5	4.9	5.1	5.7	4.9	5.1	5.7	
2.5	2.3	1.0	1.8	0.9	0.9	2.4	
3.4	3.1	1.6	2.7	1.7	1.6	2.9	
72.0	78.0	76.3	71.3	76.3	76.5	74.3	
8.6	8.6	8.8	9.1	9.0	9.4	8.8	
302	302	302	403	302	303	352	
4.3	4.3	3.8	4.8	4.2	4.5	5.1	
103	125	106	106	107	105	104	
46	46	35	36	36	36	36	
2008	2525	2041	2066	2077	2055	2044	
6.3	6.5	6.3	6.6	6.5	6.1	4.8	
4.5	5.0	4.7	4.7	4.9	4.8	6.1	
B	B	B+	B	B	B	B	
C+	B	B	C+	C+	C+	C+	
105	110	115	105	105	105	105	
26	13	12	23	9	20	21	
20	10	11	19	8	18	16	
-	70	62	-	60	59	62	

Continued on page 10

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Area	Southeast		South Central	
	So. Car.	Louisiana	Mississippi	Hazelhurst
Production area	York	Arnaudville	Carencro	
Predominant variety	Car. Queen	Mxd-Mnly	Stnvl 213	Mxd-Mnly
Percentage of variety at gin	100	Stnvl 7A	75	Stnvl 213
Triweekly sampling	First	First	First	First
RAW COTTON QUALITY				
Grade	SM	M	M	M
Staple length	1-3/32	1-1/16	1-1/16	1-1/16
Fiber length (Digital Fibrograph):				
2.5% span length.....inches	1.08	1.08	1.05	1.08
Uniformity ratio (50/2.5).percent	47	48	48	46
Fiber fineness and maturity:				
Micronaire	reading	4.8	4.7	5.0
Fiber strength and elongation:				
Zero gauge strength	1,000 psi	87	83	84
Zero gauge strength	grams/tex	43.2	42.2	41.1
$\frac{1}{2}$ -inch gauge strength	grams/tex	24.8	22.2	22.3
$\frac{1}{2}$ -inch gauge elongation...percent		5.0	6.6	6.7
Shirley Analyzer:				
Visible waste	percent	0.7	0.7	1.2
Total visible & invisible..percent		1.4	2.0	2.1
Color of raw cotton:				
Reflectance	Rd	77.5	76.2	75.3
Yellowness	+b	9.1	8.8	8.9
Code	number	252	302	352
PROCESSING RESULTS:				
Picker and card waste.....percent		3.8	4.4	5.1
Yarn skein strength:				
22s (26.8 tex)	pounds	122	108	109
50s (11.8 tex)	pounds	44	38	37
Average break factor.....		2442	2138	2124
Yarn skein elongation:				
22s (26.8 tex)	percent	6.3	5.8	5.8
50s (11.8 tex)	percent	4.9	4.8	4.6
Yarn appearance:				
22s (26.8 tex)	grade	B+	B+	B+
50s (11.8 tex)	grade	B	C+	C+
Average yarn appearance.....index		115	110	110
Yarn imperfections: 1/				
22s (26.8 tex)	number	5	14	13
50s (11.8 tex)	number	5	12	8
Spinning potential..2/...Yarn number				
		61	64	62
				60

1/ Level for previous years x 0.6 = 1966 level.

Continued on page 11

2/ Level for previous years x 1.1 = 1966 level.

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

South Central				Southwestern			
Mississippi		South Texas		Central Texas			
Indianola	Port Gibson	Tylertown	El Campo	Long Mott	Batesville	Navasota	
DPL	Smooth Leaf	Car. Queen	Stnvl 7A		DPL	Smooth Leaf	
100				99		95	100
First	First	First	Third	Third	Second	First	
SLM 1-1/16	SM 1-1/16	M 1-1/16	SLMLtSp 1-1/16	LM 1-1/16	SLMLtSp 1-1/16	SLM 1-1/16	
1.06 46	1.06 47	1.05 48	1.04 48	1.05 47	1.08 46	1.07 46	
5.1	5.4	5.2	5.1	4.8	4.6	4.8	
87	84	84	90	93	84	83	
43.3	41.4	41.7	44.7	46.1	41.7	41.2	
25.8	23.6	22.4	21.0	22.1	22.6	22.5	
6.4	6.5	5.2	4.9	5.3	7.0	7.4	
1.9 2.8	0.7 1.3	1.0 1.9	2.0 3.2	2.1 3.4	1.5 2.9	1.2 2.5	
75.3 8.6 352	77.5 8.8 302	76.0 9.0 302	68.8 9.3 453	67.0 8.0 503	71.8 9.1 403	73.2 8.5 402	
5.1	3.2	4.5	5.4	6.0	5.4	4.9	
110 37 2135	109 37 2124	102 34 1972	96 31 1831	109 38 2149	112 39 2207	113 38 2193	
6.6 4.8	6.4 4.9	5.9 4.3	4.6 3.3	5.4 4.1	5.9 4.8	6.0 4.4	
B+ C+ 110	B+ B 115	B C+ 105	B+ C+ 110	B+ C+ 110	B+ C 105	B+ C+ 110	
19 15	8 8	19 16	9 8	13 8	17 14	15 10	
62	63	59	-	-	-	62	

UNITED STATES DEPARTMENT OF AGRICULTURE
CONSUMER AND MARKETING SERVICE
WASHINGTON, D.C. 20250

UNIVERSITY OF FLORIDA

P
U. S.

3 1262 08333 396 2



OFFICIAL BUSINESS